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EXAMINER

NGUYEN, THU HA T

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/341,085

Applicant(s)

VAN DRIEL, CAREL J.L.

Examiner

Thu Ha T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, and 3-20 are presented for examination.

Response to Arguments

2. Applicant's arguments with respect to claims 1, and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

3. In view of the Appeal Brief filed on February 02, 2006, PROSECUTION IS HEREBY REOPENED. The new ground(s) of rejection(s) is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:


SALEH NAJJAR
SUPERVISORY PATENT EXAMINER

Claim Objections

4. Claims 1, 7-9, 10, 12-13, and 18-20 are objected to because of the following informalities:

5. Claim 1 recited the limitations “said network switch” and “the access-network-specific switching”. There is insufficient antecedent basis for these limitations in this claim. Appropriate correction is required.

6. Claim 7 recited the limitations “said network switch”, “the access-network-specific switching” and “said access switch”. There is insufficient antecedent basis for these limitations in this claim. Appropriate correction is required.

7. Claim 8 recited the limitations “the respective **carrier frequencies**” and “the **identified** carrier frequency”. There is insufficient antecedent basis for these limitations in this claim. Appropriate correction is required.

8. Claim 9 is repeated the exactly same limitations as recited in claim 8. The applicant is required to cancel claim 9. Appropriate correction is required.

9. Claim 10 recited the limitations “said access node” and “said network switch”. There is insufficient antecedent basis for these limitations in this claim. Appropriate correction is required.

10. Claim 10 recited the limitations “a plurality of terminals”, “a terminal of the plural terminals intended as a destination” and “the intended destination terminal”. While, claims 11 and 12 recited “said terminal”. There is inconsistent for these limitations in these claims. Appropriate correction is required.

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11. Claim 12 recited the limitations “one of **the network control switches**”, “each of **the network control switches**” and “**the respective one of predetermined carrier frequencies**”. There is lack of antecedent basis for these limitations in this claim. Appropriate correction is required.

12. Claim 13 recited the limitation “the corresponding said respective ones of the plural terminals”. There is lack of antecedent basis for this limitation in this claim. Appropriate correction is required.

13. Claim 18 recited the limitation “said network node”. There is insufficient antecedent basis for this limitation in this claim. Appropriate correction is required.

14. Claim 19 recited the limitation “said one of the plural terminal”. There is lack of antecedent basis for this limitation in this claim. Appropriate correction is required.

15. Claim 20 recited the limitations “said network switch” and “said access node”. There is insufficient antecedent basis for these limitations in this claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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17. Regarding claims 14 and 20, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

19. The analysis under 35 U.S.C. 112, first paragraph, requires that the scope of protection sought be supported by the specification disclosure. The pertinent inquiries include determining (1) whether the subject matter defined in the claims is described in the specification and (2) whether the specification disclosure as a whole is to enable one skilled in the art to make and use the claimed invention.

(1) Claims 1, 7, 10, 14, and 20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The "invention" for the purpose of the first paragraph analysis is defined by the claims. The description requirement is simply that the claimed subject matter must be described in the specification. The function of the description requirement is to ensure

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that the applicant had possession of the invention on the filing date of the application.

The application need not describe the claim limitations exactly, but must be sufficiently clear for one of ordinary skill in the art to recognize that the applicant's invention encompasses the recited limitations. The description requirement is not met if the application does not expressly or inherently disclose the claimed invention.

Specification does not explicitly describe nor is sufficiently clear for one of ordinary skill in art to recognize the following steps as recited in claims 1, 7, 10, 14 and 20 in bold-faced limitations:

In claim 1:

“an access node connecting said transmission network to **a non-dedicated network switch**”

In claim 7:

“An access node connectable to a transmission network, and to **a non-dedicated network switch**”

In claim 10:

“A **dedicated access node** for connecting **a non-dedicated network switch** to a plurality of sub-networks of a transmission network” and

“**said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal**”

In claim 14:

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“...said network would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal.”

In claim 20:

“providing a non-dedicated network switch;

connecting, by means of a dedicated access node ...” and

“said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal”

These claimed limitations have not found or supported by the specification.

Rather, in the specification page 1, lines 19-27 and abstract shown that network switch 4, figure 1, is a dedicated network switch, not a **dedicated access node** as claimed in claim 10. The examiner cannot find any where in the specification that supports or describes the network switch is **non-dedicated network switch** and an **access node is a dedicated access node** and **“said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal”**. Thus, there is a contradiction between the amended claim limitation and the described specification. Since the specification describes different switches (e.g., network switch 4, access node switch 8, plurality of network control switches 43-47, applicant is required to point out which switch is **dedicated switch** and which switch is a **non-dedicated switch** and **“said network switch is relieved of knowing details of said access network that**

said network switch would otherwise need for directing said signal to the intended destination terminal” as support in figures and in specification.

(2) Claims 1, 7, 10 14 and 20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The enablement requirement necessitates a determination that the disclosure contains sufficient teaching regarding the subject matter claimed as to enable one skilled in the pertinent art to make and use the claimed invention. In essence, the scope of enablement provided to one ordinarily skilled in the art by the disclosure must be commensurate with the scope of protection sought by the claims.

Currently, the most prevalent standard for measuring sufficient enablement to meet the requirements of 112 is that of "undue experimentation". The test is whether, at the time of the invention, there was sufficient working procedure for one skilled in the art to practice the claimed invention without undue experimentation. It is important to note that the test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, is it undue. A skilled artisan is given sufficient direction or guidance in the disclosure. Moreover, the experimentation required, in addition to not being undue, must not require ingenuity beyond that expect of one of ordinary skill in the art.

Undue experimentation and ingenuity would be required beyond one ordinarily skilled in the art to practice the following recited limitation in claims 1, 7, 10, 14 and 20:

In claim 1:

“an access node connecting said transmission network to a non-dedicated network switch”

In claim 7:

“An access node connectable to a transmission network, and to a non-dedicated network switch”

In claim 10:

“A dedicated access node for connecting a non-dedicated network switch to a plurality of sub-networks of a transmission network” and

“said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal”

In claim 14:

“...said network would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal.”

In claim 20:

“providing a non-dedicated network switch;

connecting, by means of a dedicated access node ...” and

“said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal”

Undue experimentation would be needed to allow “an access node connecting said transmission network to a **non-dedicated network switch**”; “A **dedicated access node** for connecting a **non-dedicated network switch** to a plurality of sub-networks of a transmission network” and “...**said network would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal.**” and “**said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal**”. While in the specification page 1, lines 19-27 and abstract shown that network switch 4, figure 1, is a dedicated network switch. Thus, there is a contradiction between the amended claim limitation and the described specification. Since the specification describes different switches (e.g., network switch 4, access node switch 8, plurality of network control switches 43-47, applicant is required to point out which switch is **dedicated switch** and which switch is a **non-dedicated switch** as support in figures and specification.

20. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

21. In claim 14, the applicants wrote “**said network would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal**”. (emphasized added). The examiner cannot

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find any support for this limitation. The examiner considers the "if not for said access node being configured to direct said signal from said network switch to said terminal" as a negative limitation. According to MPEP2173.05(i), "Any negative limitation or exclusionary proviso must have basis in the original disclosure". Since the applicants does not positively describe that **said network would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal**, the examiner consider the limitation "if not for said access node being configured to direct said signal from said network switch to said terminal" as a new matter which is not supported by the specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiekali** U.S. Patent No. **5,619,500**, in view of **Hiller et al.**, (hereinafter **Hiller**) U.S. Patent No. **5,426,636**.

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8. As to claim 1, **Hiekali** teaches the invention as claimed, including communication system comprising:

a plurality of terminals (figures 2, 4, element 205) that are connected to an access network (figure 2-3, ATM network 300, col. 3 lines 3-25); and

said access network, having a transmission network (figures 2-3, i.e., *ATM network 300, frame relay network 302-N-1, SMDS network 302-N-M*), and an access node (figures 2-3, i.e., *ATM gateway 302*) connecting said transmission network (i.e., *frame relay network 302-N-1, SMDS network 302-N-M*) to a non-dedicated network switch (figure 2-3, i.e., *ATM switch 301*), each network control element including a network control switch and a plurality of channel cluster modules, wherein the channel cluster modules are each arranged for transmitting downstream signals on one, respective carrier frequency (figures 3-6, 8-10, abstract, col. 2 lines 5-33, col. 3 lines 3-59, col. 14 lines 20-60 –*The ATM gateway 302 includes a plurality of service interface module (SIMs) 401-1 through 401-j (i.e., plurality of cluster channel modules), each of which is capable of communicating to a user via one or more T1 channels. The SIM 401 (figures 4 and 5) receives and processes information (i.e., signal) from the ATM network or ATM switch via cell bus 403 (figure 4) and provides it to the user via one or more T1 channels (i.e., transmitting downstream signal on one or more carrier frequency) and with appropriate data protocol*), said transmission network comprising a plurality of sub-networks correspondingly coupled to said network control elements and to the plural terminals (figures 2-3, col. 3, lines 3-59 –*ATM gate 302 connects to user*

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via frame relay network 302-1, ATM LAN switch 302-N-3, ...SMDS network 302-N-M (i.e., sub-network)).

However, **Hiekali** does not explicitly teach said access node including an access node switch coupled to said network switch, and further including a plurality of network control elements, said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of the plural sub-networks.

Hiller, in the related art, teaches said access node (figures 3-6) including an access node switch (figure 4, i.e., the second ATM cell switch 600) couple to said network switch (figures 4-5, i.e., the first ATM cell switch 600), and further including a plurality of network control elements (figures 12, 13), said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal (abstract, figures 6-7, 11-12, 20 and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14 –*converting/remapping VPI/VCI and sending to user*). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to incorporate the teaching of said access node including an access node switch coupled to said network switch and said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of the plural sub-networks, as disclosed in **Hiller** into **Hiekali** system because it would

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have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches (abstract).

9. As to claim 3, **Hiekali** teaches the invention as claimed, wherein the channel cluster modules comprise at least one downstream channel module (figure 5, col. 3 lines 60-col. 5 lines 45, col. 6 lines 8-col. 7 lines 15 – ATM gateway 302 includes a plurality of service interface module (SIMs) 401-1 through 401-j (i.e., plurality of cluster channel modules), each of which is capable of communicating to a user via one or more T1 channels (figures 3-4, col. 3, lines 3-40)).

10. As to claim 4, **Hiekali** teaches the invention as claimed, characterized in that the channel cluster module comprises an upstream channel module (figures 5-6, col. 3 lines 60-col. 5 lines 45, col. 6 lines 8-col. 7 lines 15).

11. As to claim 5, **Hiekali** teaches the invention as claimed, wherein a terminal of the plural terminals comprise signaling means for exchanging network layer control information with said network switch (figure 4, abstract, col. 2 lines 5-33).

12. As to claim 6, **Hiekali** teaches the invention as claimed, wherein said network switch comprises proxy signaling means for deriving network layer control information from session layer and/or transport layer information exchanged between a terminal and said network switch (figure 4, abstract, col. 3 lines 60-col. 5 lines 45).

13. As to claim 7, **Hiekali** teaches the invention as claimed, including access node connectable to a transmission network, and to a non-dedicated network switch, the access node comprising:

a network control element comprises a network control switch and a plurality of channel cluster modules, in that the channel cluster modules are arranged for transmitting downstream signals on one, respective carrier frequency and are connectable correspondingly to sub-networks of said transmission network (figures 2-4, abstract, col. 1 lines 32-col. 2 lines 33, col. 3 lines 3-59 –figures 3-6, 8-10, abstract, col. 2 lines 5-33, col. 3 lines 3-59, col. 14 lines 20-60 –*The ATM gateway 302 includes a plurality of service interface module (SIMs) 401-1 through 401-j (i.e., plurality of cluster channel modules), each of which is capable of communicating to a user via one or more T1 channels. The SIM 401 (figures 4 and 5) receives and processes information (i.e., signal) from the ATM network or ATM switch via cell bus 403 (figure 4) and provides it to the user via one or more T1 channels (i.e., transmitting downstream signal on one or more carrier frequency) and with appropriate data protocol, figures 2-3, col. 3, lines 3-59 –ATM gate 302 connects to user via frame relay network 302-1, ATM LAN switch 302-N-3, ...SMDS network 302-N-M (i.e., sub-network).*

However, **Hiekali** does not explicitly teach an access node switch, a plurality of network control elements, and the access node switch controls all of the access-network-specific switching without said access switch having to know a carrier

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frequency allocated to a terminal coupled to a sub-network of said sub-networks and said access node switch being connectable to said network switch.

Hiller, in the related art, teaches an access node switch, a plurality of network control elements (figures 3-4, i.e., ATM cell switch 600, figure 6, plurality of access switches 1); and the access node switch controls all of the access-network-specific switching without said access switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of said sub-networks and said access node switch being connectable to said network switch (abstract, figures 6-7, 11-12, and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14abstract, figures 6-7, 11-12, 20 and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14 –*converting/remapping VPI/VCI and sending to user*). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to incorporate the teaching of said access node including an access node switch coupled to said network switch and said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of the plural sub-networks, as disclosed in **Hiller** into **Hiekali** system because it would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches (abstract).

14. As to claim 8, **Hiller** teaches the invention as claimed in claim 1, wherein said access node switch receives, from said network switch, a packet having a field that identifies a network control element of said network control elements and a carrier frequency of the respective carrier frequencies, part of said field being replaced with an identifier of a route from said network control element to a destination terminal of said packet, said packet being transmitting with its field partly replaced for modulation of content of said packet onto the identified carrier frequency (figures 8-10, 14-18). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali and Hiller** because it would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches.

15. As to claim 9, **Hiller** teaches the invention as claimed in claim 7, wherein said access node switch receives, from said network switch, a packet having a field that identifies a network control element of said network control elements and a carrier frequency of the respective carrier frequencies, said part of said field being replaced with an identifier of a route from said network control element to a destination terminal of said packet, said packet being transmitting with its field partly replaced for modulation of content of said packet onto the identified carrier frequency (figures 8-10, 14-18). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali and Hiller** because it

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would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches.

16. As to claim 10, **Hiekali** teaches the invention substantially as claimed, including a dedicated access node for connecting a non-dedicated network switch to a plurality of sub-networks of a transmission network, the plural sub-networks being respectively connectable to a plurality of terminals, said access node comprising:

said access node being configured to direct a signal from said network switch to a terminal of the plural terminals intended as a destination (figures 2-4, abstract, col. 1 lines 32-col. 2 lines 33, col. 3 lines 3-59 –*ATM gateway 302 directs data packet/signal from ATM switch 301 to user using appropriate protocol*).

However, **Hiekali** does not explicitly teach an access node switch, a plurality of network control elements, and said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal.

Hiller, in the related art, teaches an access node switch, a plurality of network control elements (figures 3-4, i.e., ATM cell switch 600, figure 6, plurality of access switches 1) and said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal (abstract, figures 6-7, 11-12, and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14 –

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converting/remapping VPI/VCI and sending to user). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to incorporate the teaching of said access node including an access node switch coupled to said network switch and said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of the plural sub-networks, as disclosed in **Hiller** into **Hiekali** system because it would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches (abstract).

17. As to claim 11, **Hiekali** does not teaches a network control switch and a translation unit, said network control switch configured for routing said signal received from said access node switch, via said translation unit, to said terminal, without said access node switch having to know a carrier frequency allocated to said terminal.

However, **Hiller** teaches a network control switch and a translation unit, said network control switch configured for routing said signal received from said access node switch, via said translation unit, to said terminal, without said access node switch having to know a carrier frequency allocated to said terminal (abstract, figures 6-7, 11-12, and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali** and **Hiller** because it would have provided a central communication network to manage a large

telecommunication networks that provides flexibility for interconnecting large access switches.

18. As to claim 12, **Hiekali** teaches the invention as claimed in claim 11, wherein each of the plural network control elements includes a network control switch connecting the access node switch to respective ones of the plural terminals, said network control switch for routing being one of the network control switches for said connecting, each of the network control switches being configured for switching said signal onto the respective one of predetermined carrier frequencies (figure 4, col. 3 lines 3-59).

19. As to claim 13, **Hiekali** teaches the invention as claimed in claim 12, wherein a network control element of the plural network control elements further includes a plurality of channel cluster modules that connect the network control switch of said network control element to the corresponding said respective ones of the plural terminals, each of the plural channel cluster modules being arranged for transmitting downstream on a respective, single carrier frequency (figure 4, col. 3 lines 3-59).

20. As to claim 14, **Hiekali** teaches the invention as claimed in claim 10, wherein said details are such that said network switch would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal (figure 3, col. 3, line 3-col. 3, line 24).

21. As to claim 15, **Hiekali** teaches the invention as claimed, including a communication system comprising the access node, the transmission network and the plural terminals of claim 10. Therefore, claim 15 is reject the same rational as to claim 10, above.

22. As to claim 16, **Hiekali** does not explicitly teach wherein a terminal of the plural terminals comprises signaling means for exchanging layer control information with said network switch, said control information being exchanged transparently between the signaling terminal and said network switch.

However, **Hiller** teaches wherein a terminal of the plural terminals comprises signaling means for exchanging layer control information with said network switch, said control information being exchanged transparently between the signaling terminal and said network switch (abstract, col. 24, line 16- col. 25, line 14, cot. 40, lines 4-49, col. 56, line 48-col. 57, line 12).

It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali and Hiller** because it would have provided a central communication network can perform and handle a transit switching function on a mix of standard and proposed format cells.

23. As to claim 17, **Hiekali** teaches the invention as claimed in claim 15, further comprising an access network that includes said access node and said

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transmission network, wherein said network switch comprises a proxy signaling function for deriving network layer control information from at least one of session layer and transport layer information exchanged, over said access network, between a terminal of the plural terminals and said network switch (figure 4, abstract, cot. 3 lines 60-col. 5 lines 45).

24. As to claim 18, **Hiekali** does not explicitly teach wherein said network switch is connected to an external network, and is configured to set up a connection between said external network and said access node for a call by sending respective set-up messages to said external network and said access node in response to receipt, at said network node, of a request transmitted by one of the plural terminals by a transparent connection to said network switch.

Hiller teaches said network switch is configured to set up a connection for a call by sending respective set-up messages and said access node in response to receipt, at said network node, of a request transmitted by one of the plural terminals by a transparent connection to said network switch (abstract, col. 24, line 16- col. 25, line 14, col. 28, line 63-col. 29, line 14, col. 40, lines 4-49, col. 56, line 48-col. 57, line 12).

It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali and Hiller** because it would have provided a central communication network can perform and handle a transit switching function on a mix of standard and proposed format cells.

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25. As to claim 19, **Hiller** teaches the invention as claimed in claim 18, wherein said access node, in response to receiving the respective set-up message, reserves resources for the call and subsequently submits a set-up message downstream toward said one of the plural terminals (col. 26, line 27-col. 29, line 14, col. 58, lines 24-67). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to combine the teaching of **Hiekali** and **Hiller** because it would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches.

26. As to claim 20, **Hiekali** teaches the invention as claimed, including a method for configuring a communication system, comprising: providing a transmission network (figure 3, frame relay network, SMDS network, ATM LAN network); providing a non-dedicated network switch (figure 3, ATM switch 301); connecting, by means of a dedicated access node, said network switch to the transmission network; and said access node being configured to direct a signal from said network switch to a terminal of the plural terminals intended as a destination (figures 3-5, 8-10, abstract, 1 lines 32-col. 2 lines 33, col. 3 lines 3-59, col. 14 lines 20-60 –*ATM gateway 302 directs data packet/signal from ATM switch 301 to user using appropriate protocol*), connecting, correspondingly, a plurality of sub-networks to the network control element, and connecting, respectively, a plurality of terminals to the plural sub-networks (figures 2-3,

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col. 3, lines 3-59 –*ATM gate 302 connects to user via frame relay network 302-1, ATM LAN switch 302-N-3, ...SMDs network 302-N-M (i.e., sub-networks)).*

However, **Hiekali** does not explicitly teach said access node including an access node switch and a plurality of network control elements and such that said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal.

Hiller teaches said access node including an access node switch and a plurality of network control elements (figures 3-4, i.e., ATM cell switch 600, figure 6, plurality of access switches 1) said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal (abstract, figures 6-7, 11-12, and 23, col. 11, line 23-col. 12, line 44, col. 26, line 27-col. 27, line 7, col. 28, line 53-col. 29, line 14 – *converting/remapping VPI/VCI and sending to user*). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention was made to incorporate the teaching of said access node including an access node switch coupled to said network switch and said access node switch controlling all of the access-network-specific switching without said access node switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of the plural sub-networks, as disclosed in **Hiller** into **Hiekali** system because it would have provided a central communication network to manage a large telecommunication networks that provides flexibility for interconnecting large access switches (abstract).

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Li et al. (USPN 6,195,714) discloses system and method for transferring STM calls through ATM network by converting STM calls to ATM and vice versa at the edge nodes of ATM network.

b) Bernstein (USPN 6,128,301) discloses system and method for distribution of voice over ATM networks.

c) Yamato et al. (USPN 6,094,431) discloses system and method for data packet transfer using ATM networks.

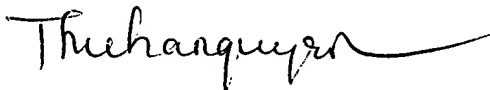
d) Peyrovian et al. (USPN 6,707,800) discloses system and method for ATM network with central call processor and one or more remotely located ATM bridge nodes.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (571) 272-3989. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Najjar Saleh, can be reached at (571) 272-4006.

The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications.

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A handwritten signature in black ink, appearing to read 'Thu Ha Nguyen', with a long, sweeping horizontal line extending to the right.

Thu Ha Nguyen

April 24, 2006